



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0091; Product Identifier 2020-NM-012-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 737-8 and 737-9 airplanes. This proposed AD was prompted by a report that certain exterior fairing panels on the top of the engine nacelle and strut (the thumbnail fairing and mid strut fairing panels) may not have the quality of electrical bonding necessary to ensure adequate shielding of the underlying wiring from the electromagnetic effects of lightning strikes or high intensity radiated fields (HIRF), which could potentially lead to a dual engine power loss event from a critical lightning or HIRF exposure event. This proposed AD would require a detailed inspection of the thumbnail fairing panels and mid strut fairing panels for excessive rework of the metallic (aluminum foil) inner surface layer, replacement of any excessively reworked panels, and modification of the thumbnail fairing assembly to ensure adequate bonding. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0091.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0091; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received,

and other information. The street address for Docket Operations is listed above.

Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: christopher.r.baker@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2020-0091; Product Identifier 2020-NM-012-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM

contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: christopher.r.baker@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Discussion

The FAA has received a report from Boeing indicating that exterior fairing panels on the top of the engine nacelle and strut (the thumbnail fairing and mid strut fairing panels) may not have the quality of electrical bonding necessary to ensure adequate shielding of the underlying wiring from the electromagnetic effects of lightning strikes or HIRF. Excessive rework of the surface of the metallic (aluminum foil) inner layer of those panels can result in cuts to that layer. This metallic layer functions as part of the shielding for aircraft wiring, including wiring associated with the engine control systems. Cuts to the metallic layer, depending on their size and location, could create the potential for HIRF exposure or lightning attachment to induce spurious signals onto the underlying airplane wiring, including wiring associated with the engine control systems. Such spurious signals could cause a loss of engine thrust control. This loss of thrust control could simultaneously affect both engines in two different ways. The wiring for both

engines could be independently exposed to the electromagnetic effects from the same HIRF or lightning event, or the signals induced on one engine's control system could be induced onto the other engine's wiring via common avionics system connections. This condition, if not addressed, could result in a forced off-airport landing or excessive flightcrew workload due to loss of thrust control on both engines.

Related Service Information under 1 CFR part 51

The FAA reviewed Boeing Special Attention Service Bulletin 737-54-1056, dated December 11, 2019. This service information describes procedures for a detailed inspection of the thumbnail fairing panels and mid strut fairing panels for excessive rework of the metallic (aluminum foil) inner surface layer (resulting in foil cuts), replacement of any excessively reworked panels, and modification of the thumbnail fairing assembly to ensure adequate bonding. Modification actions include doing a form-in-place gasket of the thumbnail land assemblies; preparing the mating surfaces between the thumbnail fairing panel and the left and right thumbnail land assemblies; and doing a bond check of the thumbnail fairing panel and the thumbnail land assemblies on the left and right side of the thumbnail fairing panel on both engines.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under “Differences Between this Proposed AD and the Service Information.” For information on the procedures, see this service information at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0091.

Differences between this Proposed AD and the Service Information

Boeing Special Attention Service Bulletin 737-54-1056, dated December 11, 2019, specifies a compliance time of 6 months to do the actions. However, for this proposed AD, the actions must be done before further flight. The proposed compliance time is based on the potential for a common-cause failure of both engines. The FAA has determined this compliance time is appropriate to address the identified unsafe condition.

Additionally, the effectivity of Boeing Special Attention Service Bulletin 737-54-1056, dated December 11, 2019, lists certain line numbers of Model 737-8 and 737-9 airplanes. However, the FAA is not certain that the service bulletin lists all airplanes affected by the unsafe condition identified in this proposed AD. Thus, the applicability of this proposed AD is expanded to include all line numbers for Model 737-8 and 737-9 airplanes that may be affected by the identified unsafe condition. This will ensure that all potentially affected airplanes are subject to the proposed AD.

Costs of Compliance

The FAA estimates that this proposed AD affects 128 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	5 work-hours X \$85 per hour = \$425	\$0	\$425	\$54,400

The FAA estimates the following costs to do any necessary modifications that would be required based on the results of the proposed inspection. The FAA has no way of determining the number of aircraft that might need these modifications:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Modification	Up to 7 work-hours X \$85 per hour = Up to \$595	*	Up to \$595*

* The FAA has received no definitive data that would enable the agency to provide parts cost estimates for the on-condition actions specified in this proposed AD.

According to the manufacturer, all of the costs of this proposed AD will be covered under warranty, thereby reducing the cost impact on affected persons. The FAA does not control warranty coverage for affected persons. As a result, the FAA has included all known costs in the cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2020-0091; Product Identifier 2020-NM-012-AD.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 737-8 and 737-9 airplanes included in line numbers 5602 through 7901, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 54, Nacelles/pylons.

(e) Unsafe Condition

This AD was prompted by a report that certain exterior fairing panels on the top of the engine nacelle and strut (the thumbnail fairing and mid strut fairing panels) may not have the quality of electrical bonding necessary to ensure adequate shielding of the underlying wiring from the electromagnetic effects of lightning strikes or high intensity radiated fields (HIRF), which could potentially lead to a dual engine power loss event from a critical lightning or HIRF exposure event. The FAA is issuing this AD to address

this condition, which could result in a forced off-airport landing or excessive flightcrew workload due to loss of thrust control on both engines.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Detailed Inspection and Modification

Before further flight, do a detailed inspection of the thumbnail fairing panels and mid strut fairing panels for excessive rework of the metallic (aluminum foil) inner surface layer, and, before further flight, do the modification as applicable in accordance with Steps 4., 6. through 9., inclusive, 11., and 12. of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-54-1056, dated December 11, 2019.

(h) Special Flight Permit

Special flight permits, as described in 14 CFR 21.197 and 21.199, may be issued to operate the airplane to a location where the requirements of this AD can be accomplished, but concurrence by the Manager, Seattle ACO Branch, FAA, is required before issuance of the special flight permit. Requests for a special flight permit must be submitted to the FAA with a description of the electromagnetic field radiation sources (type, location, frequency, and power level) along the planned route. Send requests for a special flight permit to the person identified in paragraph (j)(1) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the

manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

(1) For more information about this AD, contact Christopher Baker, Aerospace Engineer, Propulsion Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3552; email: christopher.r.baker@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet

<https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on February 19, 2020.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-03864 Filed: 2/25/2020 8:45 am; Publication Date: 2/26/2020]